

FIG. 1

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12 HPF

FIG. 2A



16 HPF

FIG. 2B



24 HPF

FIG. 2C



48 HPF

FIG. 2D

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H3 ANTIBODY 24 HPF

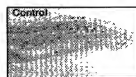
FIG. 3A



ACRIDINE ORANGE 24 HPF

FIG. 3B

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CONTROL

FIG. 4A



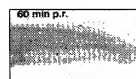
15 MIN POST-RADIATION

FIG. 4B



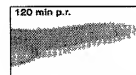
30 MIN POST-RADIATION

FIG. 4C



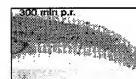
60 MIN POST-RADIATION

FIG. 4D



120 MIN POST-RADIATION

FIG. 4E



300 MIN POST-RADIATION

FIG. 4F

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FIG. 5A

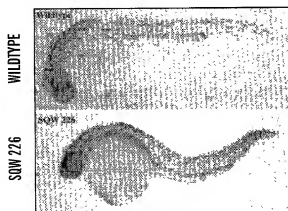


FIG. 5B



FIG. 5C

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FIG. 5D

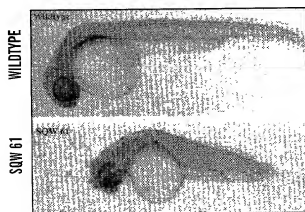


FIG. 5E

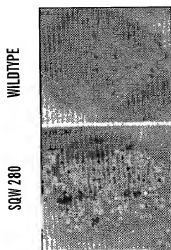


FIG. 5F

09758007.0611401

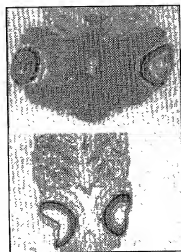


FIG. 6A

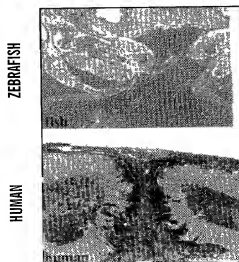


FIG. 6B

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ZEBRAFISH

HUMAN

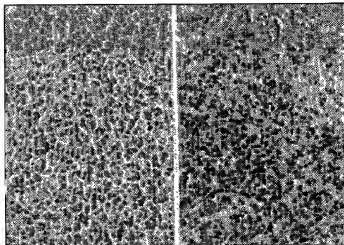


FIG. 6C

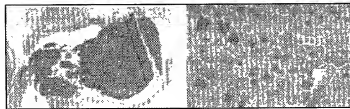


FIG. 6D

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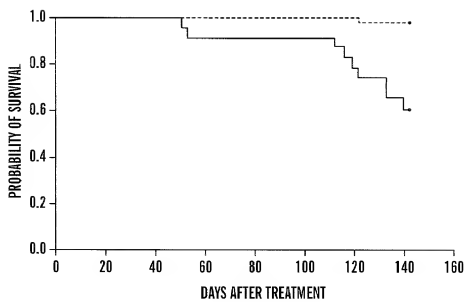


FIG. 6E

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SINGLE-EMBRYO FACS ANALYSIS

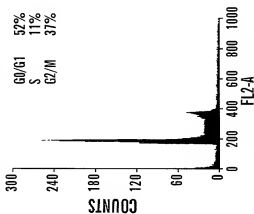


FIG. 7A

FACS ANALYSIS OF EMBRYOS
AFTER IONIZING RADIATION

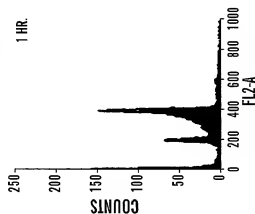


FIG. 7D

FACS ANALYSIS OF EMBRYOS
AFTER IONIZING RADIATION

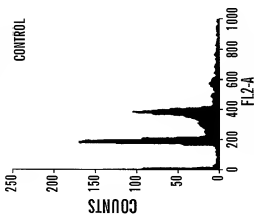


FIG. 7B

FACS ANALYSIS OF EMBRYOS
AFTER IONIZING RADIATION

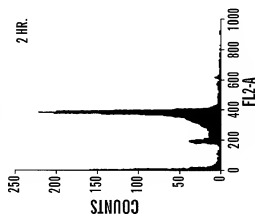


FIG. 7E

FACS ANALYSIS OF EMBRYOS
AFTER IONIZING RADIATION

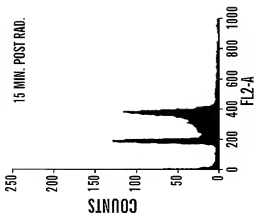


FIG. 7C

FACS ANALYSIS OF EMBRYOS
AFTER IONIZING RADIATION

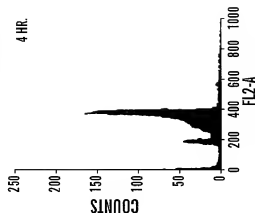


FIG. 7F

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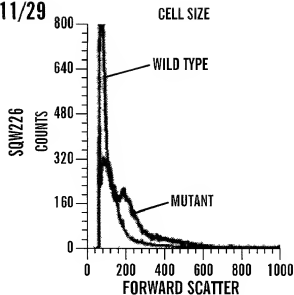


FIG. 7G

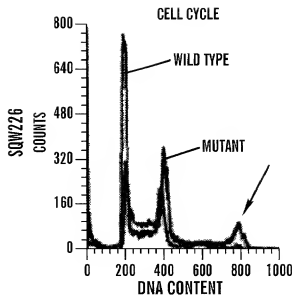


FIG. 7J

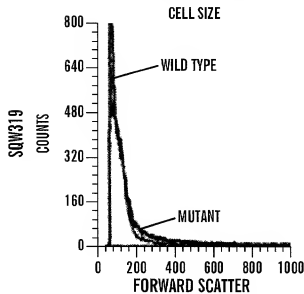


FIG. 7H

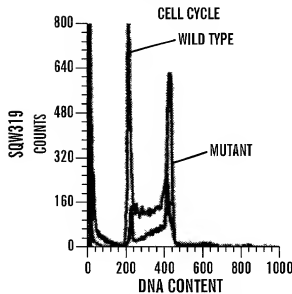


FIG. 7K

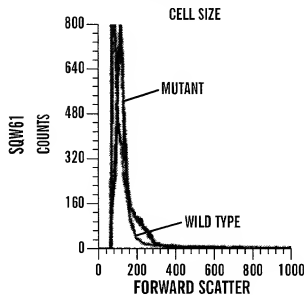


FIG. 7I

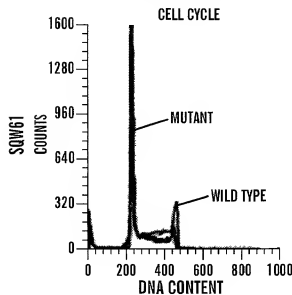


FIG. 7L

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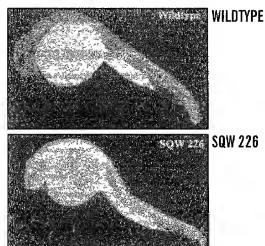


FIG. 8A

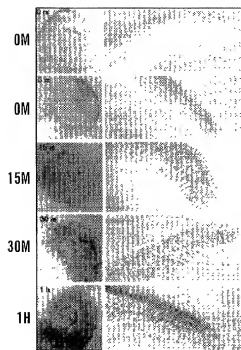


FIG. 8B

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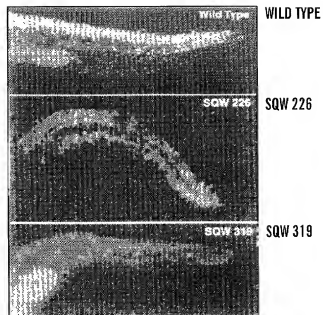


FIG. 8C

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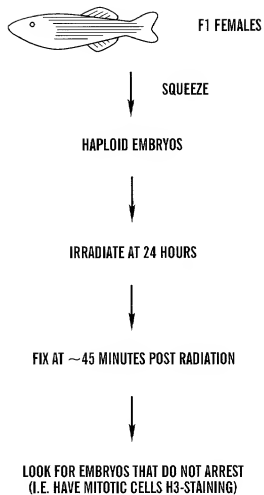


FIG. 9

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101190-2008560

WT
NON-IRRADIATED

WT
IRRADIATED

SQW 226
IRRADIATED



FIG. 10

Zfish MPPK--KRSSGTQKKELKSLKSRSPDSGDN-----AVLSPERHKDKDEHVFLSEELQSTNSICDHWRIWR 68
 Frog MPPKSPRK---QQIRSQGEPRSPDRP-----DFQDPPDFLUCENKISDNVRKGAWNTYK 53
 Human MPPKTPRKTAATAAAAAEPPAPPPPPPEEDQEQSPEDLVLRLEFETEEDPTALCQKLIKPDHVRERAWLTW 60

Zfish EIRSMCK-TNMPYSNRQQAALFTHQMELEGINLTFTQLAVGLSKQFISVYRKQVYVDTISPVNSAVTRLENY 147
 Frog MFPSGYMWRE-TAKKESLSLLLYTASVDCCEMTFTTELLSLRLSNRCFRLLREMTNMDVLSKYNDATSKLKKY 132
 Human VSSVDGVLGGYIQKKELKCTGTFHAYLDDEMSFTTELOQNIETSHKFFNLKEIST-----STKYDMSPLKKY 155

Zfish DVTLALYQRFYKICQKFAEPONA-----KRKELWESSITMFLNAGCTFQKEDLVISFQLLVLEHPARLSL 220
 Frog ENMCLLQKQFORFELFEEQHNT---RAAVDTAPILKGTITFLLRGKILQDDELVISQLLVLDVDTLSPPSI 209
 Human DVLFAFLSKFLERCELYLTQPSS-SISTEINSALVKVSLITFLLRAGEVLOKEDLVISFQLLVLDVDTLSPML 234

Zfish LOSPNSVSSSTLSPPITSRNGGSKPR--PAEDQMLLETCKEGDSVDEYKNVYQSTFCALDSVALLGLO 298
 Frog NKPEKYSALNGLPVNTPPSSRPSNRNTRVSPQSDTSKYLFLGSONYPMOEVRNVYSTFVDSLASAQISSNE 289
 Human LKFPYKTAIV--IPINGSPTPRGQNSARIAQLNDRITRIIVLKEHEINTDEYKVVFKNITFHMSLQVTSNGL 312

Zfish PMALSQYEEILHNSQDARLFSDSEITSPNKIEVSKVEYTPRKNLFAEDIAIPVQPTPIAASTISLQRGDSG 378
 Frog KVEISISQYEEILHNSQDARLFLENELIKVQDQSDLDERTPRQ--ESEVFVPVQPTPIVGAANTVQLMVTSSA 367
 Human EVNLSKRYEEILHNSQDARLFDEHNTQDSIDSFETQTPRKNLDEEVNIPPTPIVGTIVNTIQDMLTNSA 392

Zfish SDSPSSNLLVLYKNCTVDSGEEKKVEELREVIQRFQAVGQHEGLRKSFYLGALQYYKVMESMLYSEEPKLSVN 458
 Frog MCKPDTLDSFSNCTVPKTKTQDIEHFFHVKKEKFASSVQAAEIQYQYKLYVLYRYWMAITKTEEBELSVH 447
 Human SDSPSENLSIFNCTVWKESLQVKDIEYTFKEKFAVQGLVEISQYKLYRLLYRWMSMLYSEEPBLSTQ 472

Zfish FSKLLNNAAFITSLACALEVWHTVGGSLKNGGFGRRSGASDSVSDLCFPMILSVFQLPAFOYKVIEISIAEPT 538
 Frog FSKLLNDIFITSLACALEVWVWASARNA-----DQAYC-SGGTNLSFPMILRAFEINAFDFKVIEGFIKAEP 518
 Human FSKLLNDIFITSLACALEVWMTISIRST-----DQN--LDSGTLSEFPMILNVLNLAFOYKVIEISIAE 542

Zfish KHWVRVLEQCEHVIRESLAWRADSPFLDLKGSRE-EEPGEQAEPPATINQPLHNHTAADLYLSVPVCRQ----- 610
 Frog TSNVIRVLECEKHEIMELAWQSDSPFLDLKQTREREGLVDHPELVSNQOQVQNHNTAADLYLSRSDSSHQPVTS 598
 Human TREXTRVLECEKHEIMELAWQSDSPFLDLKQSKDREPTDHLSEACPINLQNHNTAADLYLSRVSPKKGSTTR 622

Zfish --P-PVMEAEPPTP--GTRAPRNSLSLFYKKLYRMAYRIKMFNSMLTSHPEAPTLWTLLHTLOQYEYLMRDHLL 685
 Frog TSSVTNGQVSSQVQ---QKSTLSLFYKKYLLAYRILSSCSSLSLSDHPELQVWTLHTLOQYEYLMRDHLL 704
 Human NST-ANAETQATSAFQTKPLKSTLSLFYKKYRLAYRLNTLCERLSEHPELHHTLNTLHTLOQYEYLMRDHLL 781

Zfish ALMSAYATCAKKNMRLRFKIVTAYKEIPNTNQETFRVLLIREGQYDSIIIVFYNLVFMQKRTNLQYSSAPPLSP 765
 Frog LIMSAYATCAKKNMRLRFKIVTAYKEIGTNTNQETFRVLLIRDGQDSIIIVFYNLVFMQKLSHLLQYSSAPPLSP 754
 Human LIMSAYATCAKKNMRLRFKIVTAYKQPHAVQETFRVLLIREGQYDSIIIVFYNLVFMQKRTNLQYSSAPPLSP 781

Zfish IPHIPGSPYK--KSLRVPSNNVYSPKLSRV-----SLVVTPRSRIITIGESGCSADKFOKIQIVSSSSMSLK 837
 Frog IPHIPSPYKFPKGSF-KVPL--NLVYSPLATPYKTADGLLSPSKTPKTSFISLGETRSPDFQFQINQNLNCSERP 831
 Human IPHIPSPYKFPSPSLRIQGN--ITLSPSPYKISEGLPTFTKTPPRSRIITIGESGTSFQKIQIVCNSDRVLL 860

Zfish RSLDGGSAKPKLRLRFMDQDEADGSKS-SGESALIKLAENSTSTSMJELKKEESDKOHPB. SEQ ID NO: 1 904
 Frog RSADYGTTPKPKLRLRFSDQDEADGSKHQGESKFOJQLAENSTSTIRMYKLEESLESSQGEK SEQ ID NO: 2 899
 Human RSAEGSNPKPKLRLRFDEGDEADGSKHLPGESKFOJQLAENSTSTIRMYKQKNDMSDTSNKGK SEQ ID NO: 3 928

FIG. 11

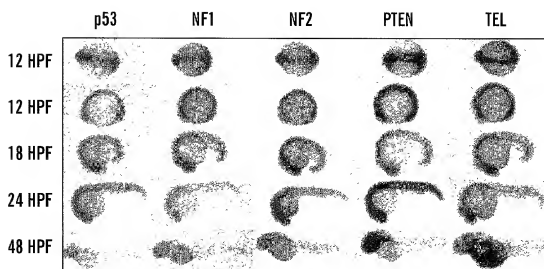
**FIG. 12**



FIG. 13A



FIG. 13B

SQW 213

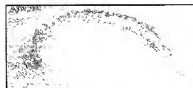
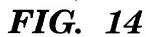
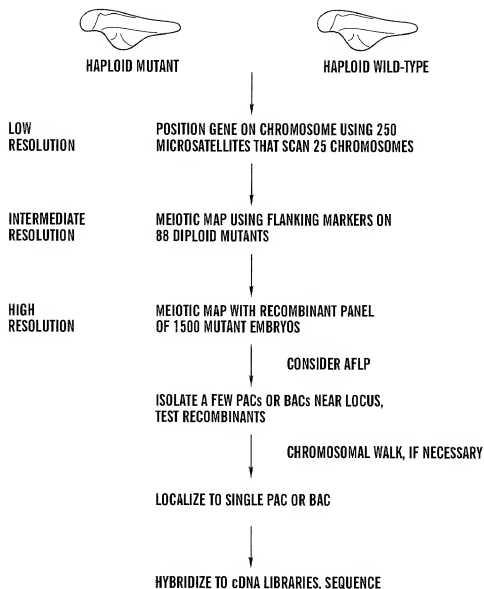
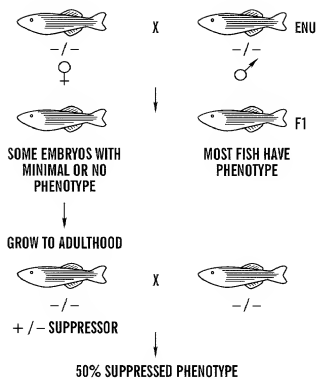
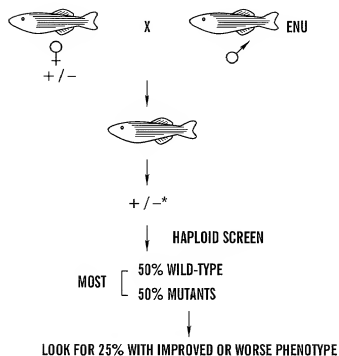


FIG. 13C



**FIG. 15**

**FIG. 16A****FIG. 16B**

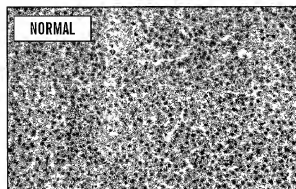


FIG. 17A

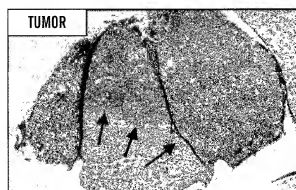


FIG. 17B

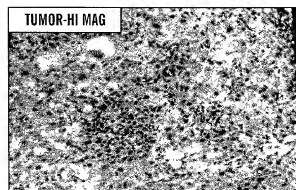


FIG. 17C

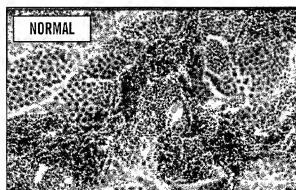


FIG. 18A

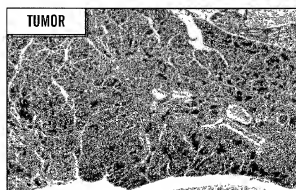


FIG. 18B

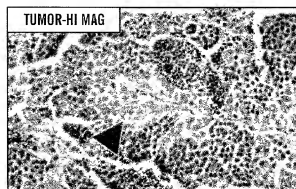


FIG. 18C

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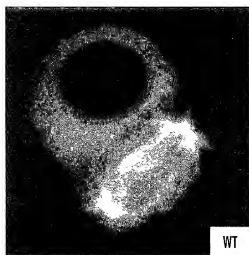


FIG. 19A

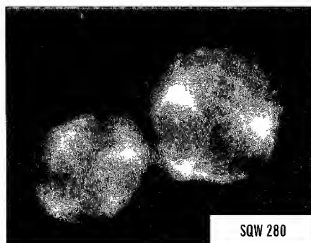


FIG. 19B

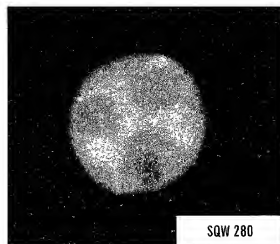


FIG. 19C

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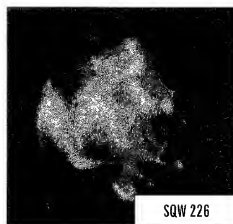


FIG. 19D

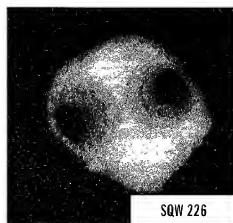


FIG. 19E

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FIG. 20A



FIG. 20B



FIG. 20C

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FIG. 20D

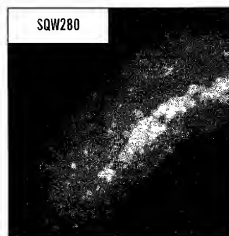


FIG. 20E



FIG. 20F

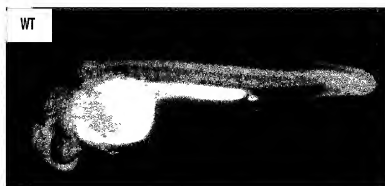


FIG. 21A

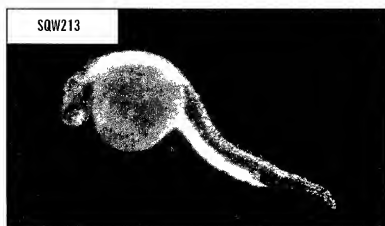


FIG. 21B



FIG. 21C

SQW61

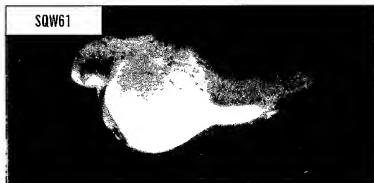


FIG. 21D

SQW226

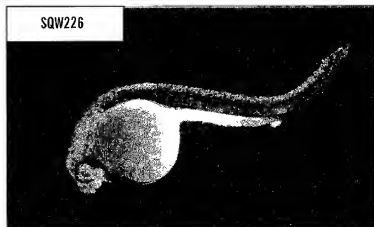


FIG. 21E

SQW319

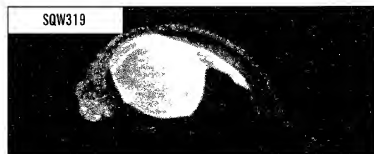


FIG. 21F